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REMARKS

Claims 1-13 were pending in the subject application. By this Amendment, claim 13 has been canceled, without prejudice or disclaimer, and claims 1-4 and 9 have been amended to place the claims in better form for examination. Accordingly, claims 1-12 are presented for examination.

Support for the claim amendments may be found, inter alia, in the specification at page 8, lines 9-11 and 21-24. Further support for the claim amendments may be found, inter alia, in Figure 3.

Applicant maintains that no new matter is presented by this amendment. Accordingly, Applicant respectfully requests that this Amendment be entered.

Objection To The Drawings

In Section 2 of the March 1, 2004 Office Action, the drawings were objected to under 37 C.F.R. §1.84(h)(5).

The Examiner stated that Figures 1 and 2 show modified forms of construction in the same view.

No additional details were provided in the Office Action regarding the Examiner's conclusion that the figures show modified forms of construction in the same view.

In response thereto, Applicant respectfully points out that there are indeed no modified forms of construction in the figures.

Figure 1 shows schematically a layout of a prior art network, such as the Internet. Figure 1 is described in the specification at page 7, lines 6-21. No modified forms of construction are shown in Figure 1 or suggested by the corresponding description

thereof.

Figure 2 shows schematically upstream and downstream data flow in a prior art network. Figure 2 is described in the specification at page 7, lines 22-28. No modified forms of construction are shown in Figure 2 or suggested by the corresponding description thereof.

Accordingly, withdrawal of the objection to the drawings is requested.

Objection To The Claims

In Section 5 of the March 1, 2004 Office Action, claims 2-5 and 9 were objected to as purportedly having informalities.

With respect to claims 2, 3 and 4, the Examiner suggested that Applicant change "... to said users ..." to "...to said other users...".

With respect to claim 5, the Examiner suggested that Applicant remove a period (.) between first group.

With respect to claim 9, the Examiner suggested that Applicant change "...upstream channel of his full duplex..." to "upstream channel of said user full duplex".

By this Amendment, Applicant has amended the claims to place the claims in better form for examination.

With respect to claim 5, no period is found between "first" and "group." Therefore, no amendment to claim 5 has been made.

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Accordingly, withdrawal of the objection to the claims is requested.

Rejection under 35 U.S.C. §112, second paragraph

In Section 4 of the March 1, 2004 Office Action, claim 13 was rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The Examiner stated that claim 13 does not point out any specific limitation.

By this Amendment, claim 13 has been amended. Accordingly, the rejection is now moot, and withdrawal of the rejection under 35 U.S.C. §112, second paragraph is requested.

Rejection Under 35 U.S.C. §102(e)

In Section 7 of the March 1, 2004 Office Action, claims 1 and 3-12 were rejected under 35 U.S.C. §102(e) as purportedly anticipated by U.S. Patent No. 5,884,031 to Ice.

Regarding claim 1, the Examiner stated that Ice discloses receiving data (information) from the network by at least one user (information send from server A to clients C1 and C2), storing the data on the user's storage device for a predetermined period of time for further user (storing information from the server A in clients C1 and C2), re-transmitting the received data to other users.

Regarding claim 3, the Examiner stated that Ice discloses retransmitting the information to the other users. The Examiner

acknowledged that Ice does not explicitly disclose, however, that the re-transmission of the received data to the users is carried out after download time.

Regarding claim 4, the Examiner stated that Ice discloses receiving the data by the user, storing the received data on the user's computer system and re-transmitting the data from the user's location to the users through the upstream channel bandwidth in response to a request or according to pre-defined operation instructions.

Regarding claim 5, the Examiner stated that Ice discloses receiving data on the user's computer system, causing the received data to be re-transmitted through the upstream channel bandwidth from the user to a first group (C1 and C2) of one or more other users, causing the received data to be re-transmitted through the upstream channel bandwidth from the first group of users to a further group (C3-C6, Cs) of one or more other users; and repeating step (c) for all the users requesting the data.

Regarding claim 6, the Examiner stated that Ice discloses that data is transmitted to the user from a plurality of other users.

Regarding claim 7, the Examiner stated that Ice discloses that the transmission of data from a user to one or more other user(s) is carried out with delay.

Regarding claim 8, the Examiner stated that Ice discloses receiving data on the user's computer system, re-transmitting the received data through the upstream channel bandwidth to a dedicated server (client computer and dedicated server are interchangeable) for storage, and retrieving the stored data from the dedicated server for other purposes.

Regarding claim 9, the Examiner stated that Ice discloses a coordination center (server A) for tracking data entities distributed over the data network, a plurality of users having computer means connected to the data network via a full-duplex connection, the computer means comprising or being coupled to memory means and software and/or hardware means for re-transmitting data from the computer of each user via the upstream channel of his full duplex connection to other users connected to the network.

Regarding claim 10, the Examiner stated that Ice discloses that the coordination center (server A) comprises storage means and software/hardware component for storing information related to the data passed through the network and for data retrieval.

Regarding claim 11, the Examiner stated that Ice discloses that the users are provided with software/hardware components, suitable to re-transmit the data received in the user's computer to the other users on the network according to instructions from the coordination center (server A) or according to pre-defined operation instructions.

Regarding claim 12, the Examiner stated that Ice discloses that the users are provided with software/hardware components suitable to send information to the coordination center representative of the upstream bandwidth available, and of the contents stored in the memory means associated with the user's computer, that are available for retransmission.

Applicant maintains that the claimed invention cannot be anticipated by Ice because Ice fails to disclose each and every element of the claims, as amended.

The present application relates to efficiently exploiting an upstream channel bandwidth of full-duplex connection between a user and network. The claimed invention of the present application provides a solution to the problem of inefficient and slow transfer of data (such as video and audio information) to users.

For example, claim 1 is directed to a method for efficiently exploiting an upstream channel bandwidth of full-duplex connection between a user and data network. The method includes a) providing a coordination center for tracking data entities distributed over the data network, b) receiving one or more data entities from the network by at least one user, c) storing the data entity on a storage device of the at least one user for a predetermined period of time for further use, and d) re-transmitting the received data to other users. Whenever the coordination center of the network receives from one or more of the other users one or more requests for the received data entities, the coordination center points to the corresponding user(s) from which the requested data entities can be obtained, and causes the requested data entities to be re-transmitted to the requesting other user(s).

Claim 9 is directed to a system for managing data flow in a data network. The system includes a) a coordination center for tracking data entities distributed over the data network, b) a plurality of users having computer means connected to the data network via a full-duplex connection, each one of the computer means of the plurality of users comprising, or being coupled to, memory means for storing received one or more of the data entities, and c) software and/or hardware means for re-transmitting received data entities from the computer of each

user via the upstream channel of the user full duplex connection to other users that are connected to the network. Whenever the coordination center of the network receives from one or more of the other users one or more requests for the received data entities, the coordination center points to the corresponding user(s) from which the requested data entities can be obtained, and causes the requested data entities to be re-transmitted to the requesting other user(s).

The cited art does not disclose or suggest the claimed invention..

Ice refers, in general, to a data network having a "tree" architecture, where server A is placed at the top of the "tree", which further consists of several users, forming hierarchical levels.

Ice refers to, and is intended to resolve, the problem that in order for an individual client system to retrieve information from a server, the individual client system must make a connection with the server and request the particular information needed. Accordingly to Ice, each client conventionally has an individual connection to the server which is problematic because if there are too many connections to the server, a client wishing to make an additional connection with the server will be denied access.

Accordingly, Ice teaches a private network that allows a client system to connect to a server by utilizing one or more connections already existing between the server to other client system(s). That is, according to Ice, if a client wishes to connect to a server, but there are no available connection, the server forwards to this client an address of another, already connected, client system, through which the new client can gain

access to the server. For example, Ice (at column 4, lines 18-22) states in relevant part that "two client systems are directly connected to the server system, ..., each other client system is connected to receive information from the server system through two other client systems".

According to Ice, once a connection is made between a new client system and the server, through one or more already connected client systems (hereinafter "intermediators"), the particular information required by the new client is relayed from the server A to an intermediary and from this intermediary to another intermediary until the required information reaches the new client system. Therefore, whenever information is required by any of the client systems, the information is retrieved in any case from the server A, whereas the intermediating client systems only relay the information from server A to the requesting client system. Relayed data is stored in intermediating client systems only to the extent deemed necessary for a current relaying stage.

In Ice, data is always retrieved from server A, either through a direct connection between server A and the requesting user system, or through a previously established (that is, existing) connection made between server A to a different user server(s).

In contrast, when a new user wishes to obtain information from an ISP server, the proxy coordinator, which intermediates between the server and the user and is utilized only as a pointer to users, according to the claimed invention, directs the new user to a nearest user who already has the requested information/data (that is, from a previous interaction with the server/proxy coordinator). The requested information is relayed to the new user from this user. Data is retrieved from the ISP server only if the data is not already stored in one of the users' systems.

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Therefore, a substantial difference between Ice and the claimed invention is that according to Ice, server A is configured to direct a new client system to other client system(s) through which the new client system can gain access to server A itself to retrieve therefrom requested data, whereas according to the claimed invention, the proxy coordinator (coordination center) directs a new client to other clients from which the new client can retrieve the requested data.

Since the cited art does not disclose or suggest each and every feature of the claimed invention, the claims are believed to be patentable over the cited art.

Regarding claims 3-8, Applicant respectfully points out that claims 3-8 depend on and include all the limitations of claim 1. Thus, claims 3-8 are patentable at least for the reasons set forth above with respect to claim 1.

Likewise claims 10-12 depend and include all the limitations of claim 9, and therefore claims 10-12 are patentable at least for the reasons set forth above with respect to claim 9.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 1 and 3-12 under 35 U.S.C. §102(e).

Rejection Under 35 U.S.C. §103(a)

In Section 20 of the March 1, 2004 Office Action, claim 2 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Ice.

The Examiner stated that Ice discloses that user C1 and C2

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receives information from server A and stores it in users storage, and retransmits the information to the other users. The Examiner takes official notice that re-transmission of received data to users during download time or re-transmit on the fly is known in the art which data is transmitted a portion of unfinished receiving data.

The Examiner also alleged that it would have been obvious to a person having ordinary skill in the art at the time the invention is made to modify Ice to retransmit data to other users on-the-fly while receiving the data from server because it allegedly would enable the delivery time to other users to be reduced, by waiving the waiting time of the last receiving data.

As discussed above, Ice does not disclose each and every feature of claim 1, and therefore claim 1 is believed to be patentable over the cited reference. Since claim 2 depends on and includes all the limitations of claim 1, claim 2 is patentable at least for the reasons set forth above with respect to claim 1.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claim 2 under 35 U.S.C. §103.

In view of the amendments to the claims and remarks hereinabove, Applicant maintains that claims 1-12 are now in condition for allowance. Accordingly, Applicant earnestly solicits the allowance of the application.

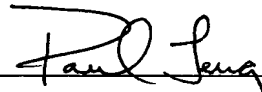
If a telephone interview would be of assistance in advancing prosecution of the subject application, Applicant's undersigned attorneys invites the Examiner to telephone them at the telephone number provided below.

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If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our Deposit Account No. 03-3125.

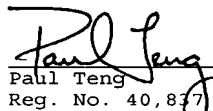
No fee is deemed necessary in connection with the filing of this Amendment. However, if any additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450.



Paul Teng
Reg. No. 40,837

June 23, 2004
Date